The American Practitioner.

JUNE, 1884.

Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Communications.

PUERPERAL MASTITIS.

BY THEOPHILUS PARVIN, M. D.

While puerperal mastitis is rarely a source of danger, it is usually attended with so much suffering it compels giving up nursing the affected breast, possibly the weaning of the infant, and its occurrence is so often unjustly blamed upon the nurse or the doctor, that a brief study of the disease may be of some interest, and it is hoped of some use. This study will be rendered still briefer by confining it chiefly to the causes of the disease and its prophylactic treatment.

In rare cases parenchymatous mastitis is one of the manifestations of a general pyemic infection, but the great majority have other causes, and among these causes the most frequent are abrasions, ulcerations, or fissure of the nipple—for the latter the French use the word *crevasse*, and it is very expressive, for the great gap which is seen in some cases just at the base of the nipple, a crescent-shaped gap which may go on increasing until the sinuses of milk ducts are opened, or even still more serious destruction of tissue occurs. Now these raw and abraded surfaces, these lesions of tissue, open doors for the entrance of disease germs, and the lym-

phatics are there in ample number to transport the germs, not only to the superficial but to the deep parts of the gland. I know it is usually held that the milk ducts are the medium by which inflammation is carried from the nipple, but if one will watch the inflammatory process he will see in many, I will not say all, cases the superficial lymphatics showing red-lined paths toward the axilla. Knowing, too, how important a part the extra- and intra-pelvic lymphatics play in the genesis of puerperal septicemia, absorption of the puerperal poison being far more frequent by them than by veins, it is probable that similar vessels here are the carriers of disease. Be this as it may, there can be no question as to the fact that almost all cases of inflammation of the breast in lying-in women begin in disease of the nipple.

Cold is also admitted by most authorities as an occasional cause of mammary inflammation; indeed, Delore goes so far as to say that in almost all cases exposure to cold is the cause of mammary abscess. Retention of milk is popularly considered, and also by some eminent authorities asserted, to be a cause of mammary inflammation. Schrœder's statement is unequivocal: "Suppurative inflammation of the mammary gland commonly arises through the small chaps of the nipple, and through the small scab formed on it occluding the excretory ducts of some of the lobes of the gland. The secretion is pent up, the lacteal ducts and gland-vessels are dilated and inflamed, and suppuration begins in their walls." These views will be rejected by some, and by most be regarded as too exclusive.

Küstner, in a recent number of the *Archiv für Gynækologie*, discusses this subject, and quotes the opinions of Billroth, Winckel, Spiegelberg, and Schrœder. The first two hold that the inflammation generally has its origin in fissures of the nipple, and that the inflammation extends to the connective tissue; retention of milk is secondary, and has nothing to do with the inflammation; while they have not observed epithelial suppuration. Spiegleberg taught that the inflammation passed by the milk ducts to the glandular structure which became infil-

trated, and suppuration followed. Schrœder's views have already been given.

Against the view that retention of milk causes inflammation and abscess are the facts observed in galactocele and in inferior animals, as in the mammiferæ whose young are destroyed; for example, those sluts and cats whose puppies and kittens are cast into the nearest stream or pond, or in the cow who strays off and is days without being milked. A galactocele does not cause an abscess; the unmilked cow does not have inflammation and suppuration of her swelled and greatly distended bag, at least if she does the event is exceptional and may be attributed to bruising of the organ, an accident liable to occur from its immense size. The sluts and cats give no evidence, I believe, of suffering in this way from retained milk. So, too, abscesses in the human female are very rarely observed—almost never observed—at weaning, or if the mother does not nurse her child, or it is still-born.

Nevertheless, it is better not to be too absolute in medical opinions. Possibly there may be some truth in the opinion of Schrœder. I feel more inclined not utterly to reject it in view of Küstner's recent article. Küstner, who adduces four cases of mammary abscess which were caused solely by secretion-stasis, but who regards this form of the disease as very rare, makes the following the chief points of diagnosis between it and the ordinary phlegmonous inflammation: Less local and general disturbance; limitation of the affection to a circumscribed point; quick and complete closure of the retention cavity after an opening has been made.

This is not a mere question of useless theory, for if retention of milk occupies any important place in the etiology of mammary inflammation, there may be some cases in which the effort to draw the milk, thus relieving the dangerous distension —a practice which I need not say is quite common in the lying-in room—is not to be condemned. Nevertheless, such practice used in a case of phlegmonous inflammation is evil, and only evil, and that continually.

But, laying aside the rare forms of mastitis caused by milk stasis, let us consider the prophylactic treatment of the ordinary form of the disease. Recognizing the fact that it originates in disease of the nipple, is simply the extension, probably by the way of the lymphatics, of the inflammation from it to the glandular structure, or to the connective tissue between the lobules and the acini, the prophylaxis must be preventing lesions of the nipple. But lesions of this organ frequently occur from want of care during pregnancy; wrong things are done, or right things left undone. The mamma is very nearly a hemisphere, and from its highest part the nipple rises up something like a low, round tower on the top of a "sugar loaf" mountain. Unfortunately, as a consequence of bad dressing by which compression of the anterior surface of the breast is made, or from arrest of development, the tower has not been built, but a level surface occupies the place where its base should rest, or, still worse, a funnel-shaped cavity is found instead of an elevation, a cup takes the place of a cylinder. Even in the last condition an effort should be made to draw out the nipple and give it suitable form and size by daily use of an air-exhausting apparatus. A bottle, the mouth of which will embrace the surface the nipple should occupy, is filled with hot water, the water poured out, the bottle inverted over the nipple—the condensation of the vapor in the bottle makes a vacuum, and thus traction upon the nipple is made—is one of the cheapest and simplest ways of doing this. But as soon as the nipple is developed by such means, or in cases where it is already prominent enough to be seized by the finger and thumb, the patient should be taught to use them ten or fifteen minutes, twice a day, to draw it out to a suitable length. Further, not only should all clothing which may compress the nipple be avoided, but a firm nipple shield placed over it, fastened, if need be, by strips of adhesive plaster to prevent its displacement. There is thus afforded not only protection from compression, but also space for the growth of the nipple.

Having thus succeeded in giving the nipple suitable form

and size, or if these conditions are already present, the next step is to make its covering such that it will best resist the agencies which, when the function of the organ is exercised, may injure it. It is needless to say that the common, almost universal practice pursued is to make astringent and alcholic applications to it; whisky and alum or tannin and alcohol are among familiar means. Now for some years it has seemed to me that this practice was wrong in theory, and that its results were by no means satisfactory. The skin of the nipple must be soft and pliable and protected from being injured by contact with fluids. Wherever surfaces are to be protected from the action of fluids nature multiplies sebaceous follicles. See, for example, how numerous they are upon the nymphæ, especially upon their internal surface, one hundred and fifty to the square centimeter. So, too, the nipple is richly supplied with sebaceous glands. Circles of these glands surround the openings of the milk ducts, and seem to have been placed there to protect the skin from the injurious influence of contact of milk and secretions from the infant's mouth; so, too, elsewhere upon the nipple these glands abound. By the frequent bathing of the organ with alcoholic and astringent solutions not only is the secretion from these glands carefully dissolved and washed away but possibly their orifices obstructed; the skin may be hardened indeed when nature meant it to be soft and pliable, but it also has less resistance to the continuous application of moisture. Such treatment daily applied to the scalp would soon make it dry, and the glossiest and most flexible hair harsh and brittle. No, I believe these applications wrong; they not only do no good, but they do harm.

Rejecting, then, this practice, what care shall be taken of the nipples? First, cleanliness of them as much as of any part of the body equally exposed. Let them be gently washed each day, adding to the water used a little tincture of myrrh or one third part of tincture of arnica, if the use of such preparation is more satisfactory to the subject, and each night apply simply a little cocoa butter or vaseline.

But the labor is over—and here danger comes from too early, too late, too frequent, and too long-continued application of the infant to the breast. To apply the baby to the breast immediately after it is born, washed, and dressed is a mistake, but to delay the application for two or three days is a greater one. Let this application be made eight or ten hours after labor, and repeated once in six hours until the secretion is established, when the interval may be two hours at first in the day and four or five hours in the night. Feeding the baby ought to be absolutely and positively proscribed, unless in very exceptional cases; for, with its appetite thus half or entirely satisfied, it dallies in nursing, keeps the nipple a long time in its mouth, and thus the skin is as surely softened and ready to be detached in parts as the skin of any part of the body would be by the continuous application of a warm poultice. "Have the infant quit when it gets done," may seem a homely form of expression, but it is a rule of importance. After every nursing the nipple should be dried with a little tissue paper, it should be washed occasionally, and a little of one of the oily applications previously mentioned made twice a day. If the secretion be scanty and the child vigorous there is danger of the nipple suffering—the strong sucking made from hunger instinct is likely to cause injury of the skin. Of course the prophylaxis here will consist in increasing the milk secretion. Should any abrasion of the nipple occur, the compound tincture of benzoin may be applied to the injured surface, but not to the entire organ. Should great pain be produced when the baby nurses, a nipple shield is to be sought.

It is a very difficult matter to say how long nursing may be continued safely once fissures of the nipple have occurred, how long we may wait hoping to heal them letting the nursing go on. Certainly there is a time when the continuance of the nursing, the nipple being unhealed, must in a given case inevitably lead to mastitis. I do not know the boundary line. This much, however, is certain, that if mastitis occurs the infant must not any longer nurse the affected breast.

PARALYSIS.*

BY C. S. BOND, M. D.

The differentiation of living tissue is the result of outside forces acting on the protoplasm of vitalized cells. Any force from without causes a greater or less disturbance among these cells, and its effect is allowed to pass inward in proportion to the ease with which the cells are moved. A very highly unstable chain of such cells, running from the surface of the body to some cell or collection of cells in which this force is manifest in other forms, is a nerve of the lowest order. The same forces acting on all portions of the same body would find many such chains of cells and terminal cells or ganglia. Finally, these ganglia would communicate with each other, with nerves, and nerves merge into nerves, from the law of force traveling in lines of least resistance. In the lowest order of animal life this differentiation of nervous tissue is very imperfectly accomplished, and no central ganglion is formed which retains an external force for a great length of time, as is the case in higher animals. Nervous development proceeds from without inward, and the higher the animal the more fully is the central ganglia developed. In these ganglia in the lower orders of life an external force is converted into nerve force, and is passed as such to the surface, where it performs a function by being connected with the motor apparatus.

In the higher orders the external force may be reflected in the small ganglia near the periphera, in the deeper centers of the spinal cord, or be carried to the brain to be stored up as memory for an indefinite length of time. Every nerve either passes from an irritable surface or to muscular fibers near that surface, there being no real difference between these nerves, save their function. The nerves which are exposed to irritation are called sensitive and transmit sensation, whereas the nerves

* Read before the Wayne County Medical Society, March 13, 1884.

which terminate on muscular fibers produce contraction of these fibers, and from this function are called motor.

A sensitive nerve will not produce motion, because not attached to muscular fibers; and, on the other hand, motor nerves do not produce sensation, because not attached to sensitive terminal corpuscles, and therefore not able to respond to external irritation. Usually sensitive nerves are looked upon as conducting from without inward, but if the nerve be cut and turned in the opposite direction the conduction will take place as before, showing that the nerve cells will transmit in either direction. In mixed nerves the sensitive fibers are distributed to the integument immediately above the muscles supplied by the motor branches, and both sets of fibers are soon inclosed in the same sheath. A ganglion is always at the internal extremity of a nerve, be that nerve either motor or sensitive. These ganglia are so constructed as to change all force which is brought into them into nerve force, whether from external irritation or internal chemical changes. These ganglia are connected together, thereby uniting all parts of the nervous system with the central ganglia of the brain. The force which is stored up in this center is presided over by volition, and is demanded at certain times to pass to special groups of muscles.

It will be seen from the foregoing that any cause, either external or internal, which retards or completely checks these forces, will, at the same time, produce a partial or complete abolition of function, which is that manifestation of disease known as paralysis. Paralysis is, therefore, only a *symptom* of disease, and has no more right to be called a disease than pain or cough.

Nerve force may be prevented from performing its function from any or all of the following causes:

1. The peripheral extremities of nerves may be destroyed permanently or temporarily.

2. The nerve is unable to conduct nerve force because of disease of its elements from complete or partial separation of its fibers, or from compression.

3. The central ganglia may be diseased, and thus check or

stop the changes in this region, thereby interfering with or completely cutting off the peripheral manifestation.

4. The motor apparatus to which nerves are attached may be impaired or totally disabled.

Now the causes which may produce these various conditions are legion, but are not important only so far as the extent and seat of the lesion is concerned. If the cause be wide-spread its effects will involve greater areas than if otherwise in any particular locality. The point at which an injury is received by nerve cells is the most important question in regard to the extent and fatality of such lesion, as well as the organs these lesions affect. If we had an animal with only one nerve, which passed to a single nerve cell, and this cell were connected by a nerve trunk to one muscle, we then snould have the simplest conceivable nervous apparatus. In this hypothetical animal an injury to any part of his nerve system would limit or completely check nervous manifestations. If two nerves are conceived coming from two very different cutaneous surfaces and passing to a single ganglion, and the other conditions being the same as before in regard to motor apparatus, disease in one afferent nerve would not destroy all nervous phenomena, since the other will still respond to irritation, as shown by contraction of the muscle. If, again, two efferent nerves pass from this ganglion with two afferent nerves, as last supposed, to muscles widely separated from each other, an irritation of one cutaneous branch would set in motion two muscles, and destruction of one afferent nerve would not destroy the function of either efferent nerve. If, now, the ganglion in either case be destroyed, both irritation and motion are at once shut off, thus showing how slight may be the lesion to produce extensive effects if only that cause involves the ganglion.

In man the ganglia are themselves arranged along and around a common axis, at one end of which is the common center, directly or indirectly, of all nervous fibers. If this nervous center was composed of one ganglion instead of many united together, a slight cause in this region would destroy all nerve function

and death immediately follow. The fact that these ganglia along this axis are so intimately united makes it very difficult to tell the extent of a central lesion from the peripheral paralysis. Nerves which pass from the extremities pass into the cerebro-spinal axis along two tracks to the brain. The anterior motor tracks cross over in the medulla side to side, and pass into the central ganglia at the base of the brain. The posterior sensitive tracks decussate at the points of union with the posterior nerve roots, and are then found passing into the basilar ganglia.

Any injury, whether traumatic or from idiopathic cause, which partially or completely destroys the function of one or both of these tracks, must cause paralysis of those parts supplied by the nerves which have thus been cut off from the central ganglia. If the right side of the cord be injured and not the left, paralysis of motion will occur in the right side and loss of sensation in the left. If the anterior columns be injured and not the posterior, then motion is lost below and not sensation.

As we approach the brain the anterior and posterior columns after decussating pass into right and left divisions and enter the central ganglia at the base. The anterior columns pass into the cerebellum and into the optic thalamus, from which ganglia they are reflected into the motor tracks on either side the fissure of Rolando. Posterior columns also pass into cerebellum and cerebrum and communicate with the same ganglia as the motor track. Injury to the upper part of the motor track means a loss of function in the lower limbs, while injury to the lower portion of the track involves the same effects in the upper extremities. Destruction of cells in the brain affects both motion and sensation in the opposite side of the body.

As soon as we have learned the exact termination of all the afferent nerves, and their interdependence with other nerves and ganglia, we shall be able to tell the location of every nerve lesion, but at present we are ignorant of the minute structure of the brain and spinal cord, and must content ourselves with these general statements, and study nerve lesions in groups rather than

in single nerves. Fortunately the laws that have already been given for nerve fibers will apply as well to nerve trunks.

Having now glanced at nerves as conductors of forces, and the results of these forces being partially or wholly cut off in some portion of the nerve track, let us consider the effect of these obstructing causes on the nerve elements themselves and the organs to which they are attached at their periphery. The first effect of injury to a nerve is, as has been said, to check or stop the transmission of force through its cells. Shortly after this—in two or three days—the medullary structure begins to pass into fatty degeneration, and appears as so many drops of oil beneath the sheath of the nerves, the axis cylinder turns in color slightly and becomes less in diameter. Even after the nerve has passed into a condition of apparent death, if the cause producing the primary lesion be removed, the nerve will again be restored as perfect as before, showing that although the nerve cells ceased to perform nervous functions still they possessed all the properties of such cells. If disease originates in the nerve cells and extends from cell to cell, the change will be in proportion to the tissue involved, and generally is much less marked than in cases of traumatic causes. The muscle to which nerve force is no longer supplied also undergoes fatty degeneration in some parts, but the principal change consists in a shrinking of its fibers and an increase of interstitial tissue. These changes take place because it is necessary to assimilation that nerve force should be present, and secondly that the muscle no longer performs a function. If the muscle affected be the circular fibers of a small arteriole, the effect is to cause permanent dilatation of the capillary to which this artery leads, and engorgement of blood results. In this way the whole capillary system may be involved from great external irritants, causing partial or complete paralysis of the small arterioles. If nerves lead to a viscus or organ of special sense, loss of function in that organ will be the result, to the extent of the nerves totally injured.

In the treatment of all nerve diseases we should first consider nerves as conductors of force, and that a failure to perform such

an office depends upon some obstruction, either external or internal, to the nerve proper, and should therefore first remove, if possible, the cause of obstruction if practicable. In the vast majority of cases this can not be done, and we are left with very little that is of benefit, except to support the general health of other tissues, and pass through a quantity of electric force, which is so similar to nerve force that it is supposed to keep in activity the nerve cells that have been wholly or partially cut off from nerve force.

In this hasty sketch I hope to have shown, to some extent at at least: (1) The origin of nerve force. (2) How nerves are developed, their distribution and function. (3) That paralysis is only a symptom of disease, and should not, therefore, be treated or spoken of as a disease. (4) The general causes of paralysis in all regions of the nervous system. (5) The extent of injury due to lesions in different ganglia and nerves. The changes in paralyzed nerves and muscles, and the effect of these changes. In short, I have tried to point out some of the fundamental principles underlying this most complex subject when studied in detail.

RICHMOND, IND.

ON INJURIES OF THE HEAD.*

BY DAVID PRINCE, M. D.

One circumstance has changed the probabilities of results in relation to the exposure of surfaces with complicated forms to the open air. This applies to compound fractures of bones, to the opening of joints, and to the exposure of the substance and membranes of the brain. This circumstance is the discovery of antiseptics which are capable of preventing putrefactive changes without poisoning the living tissues with which they come in contact.

*Contributed to the American Surgical Association at its annual meeting in Washington, May, 1884.

A great impetus was given in this direction by the observations made during our civil war. The substances employed were iodine, bromine, permanganate of potash, sulphate of zinc, corrosive sublimate, and other agents, with very great improvement in the behavior of wounds. The discovery of the antiseptic properties of carbolic acid in the cleansing of drains led Mr. Joseph Lister to apply this agent to the treatment of wounds in the Royal Infirmary of Glasgow in the year 1863. Since then, carbolic acid has taken the lead of all other antiseptics as an agent of universal application to denuded, torn, or incised surfaces. The employment of this agent in the treatment of open wounds of the head has rendered of no account the maxims drawn from previous experience.

Questions have often arisen as to the propriety of opening the scalp to explore the condition of parts beneath, whether they might be contused, torn or fractured, or whether the seat of effusion of blood; and the rule of conduct has been quite generally interpreted against interference, on account of the fear of inducing fatal cerebral inflammation. The nature of the parts favors this occurrence. The dura mater is loosely attached to the cranium without and to the arachnoid within. The arachnoid itself, if cut or torn, affords hiding places for putrefactive processes impossible to reach by any cleansing agency. The induction of putrefactive changes in all or either of these spaces is almost necessarily fatal from the delicate sensitiveness of the brain substance to neighboring inflammation, and from the readiness with which the affected surfaces absorb septic material.

In view of this consideration, it may readily be asked why any cases escaped in which antiseptic agents were not employed, in the circumstance of the opening of these parts to the air? The answer finds itself in the fact that an abundant fibrinous exudation, having a rapidly organizable property, affords a protection against putrefactive changes. Only dead parts can go into putrefaction. A firm organization of lymph seals up all avenues and no food is afforded for bacterial life. This firm

organization implies, however, a vigorous vitality. Here is a difference of circumstance which can not always be measured beforehand by any signs. There may be the appearance of health and yet the organization of exuded products may be slow. In other cases there may be an enfeebled state of health and yet a condition of speedy organization and perfect union by the first intention.

The particular value of antiseptic agents lies in the power of holding back putrefactive processes so that the behavior in cases of slow or feeble organization shall be like that in the cases of rapid and firm organization. By this means, the cases that would otherwise go badly are induced to proceed like the cases that do well *without* antiseptic agencies. This is the very point in the change of maxim in the treatment of wounds of the head. The severest injuries with exposure of surfaces to the air have recovered with wonderful exemption from serious symptoms. It is believed that an early and persistent employment of carbolic acid in a dilute watery solution will greatly increase the number of cases in which the progress toward recovery will be free from putrefactive changes. A one-per-cent solution in a cold fomentation of several folds of muslin and wet anew every twenty minutes, is the formula of practice. The temperature is made to conform to the sensation of comfort if the patient is conscious, and a little below that of the body if not conscious. The liquid penetrates all open surfaces and restrains the activity of putrefactive agencies at the same time that effusions and exudations have free openings for escape.

This is a necessary preface to the consideration of the question of the propriety of opening through an unbroken skin in order to raise a fractured portion of the skull, or to relieve the brain from the pressure of effused blood. It is believed that the danger of putrefactive changes is removed by the management here suggested. The maxim is then clear—

1. To cut through the skin and elevate portions of bone known to be depressed, and especially in all cases of puncture of the skin by pointed instruments or in cases of the penetra-

tion of the skull by cutting instruments. In these cases the inner table may be assumed to be depressed.

2. To cut through the skin and examine the condition of the bone in cases in which the deposit of a considerable amount of blood has resulted from a blow on the head by a heavy body, or in cases in which the head has been struck by some other body with great force and in which the state of the bone is hidden under an extensive effusion of blood, and in which the symptoms of concussion or compression imply serious injury.

3. The antiseptic measure may embolden the operator to go further and not only trephine a fissured skull which is not apparently depressed but to open the dura mater in cases in which it bulges into the trephine hole. The absence of the probability of septic complication justifies the expectation of the same readiness of healing in these parts as in wounds of other organs.

Experience justifies the belief that the safety of the patient is greatly enhanced by the relief from blood-pressure by the course here suggested, instead of trusting to nature to secure the absorption of the whole of the bloody effusion.

It is further suggested that the time for this interference is before the development of alarming symptoms. In this suggestion there is nothing different from the proper management of wounds of other parts, only in this, that in cases of injury of the head it is of the greatest importance to anticipate the development of inflammation, by incisions of soft parts, by the removal or elevation of depressed bone, and by the discharge of effused blood.

A case of practice based upon the maxim advocated in this paper: A fifteen-year-old boy was struck on the head by the limb of a falling tree over the left parietal bone, producing a state of unconsciousness and resulting in a large effusion under the scalp. The concussion was very profound, so that he only responded in a fretful manner on being disturbed by some painful impression. The stupor was becoming more profound at the time of the observation, four or five hours after the injury, but no marked symptom of compression had appeared.

It was determined to cut down upon the cranium, and there was found a linear fracture, the fractured borders being separated a millimeter without depression of the surface. The trephine covered the fissure, and after the included plates of bone were removed the dura mater bulged strongly into the trephine hole. This condition was interpreted as implying the effusion of blood beneath. A free incision was made in the protruding dura mater, liberating some bloody serum, but no attempt was made to dislodge the coagulum. The stupor did not further increase, and in about a week he began to be conscious. No stitches were taken. Some iodoform was dropped into the wound and a compress was laid loosely over the wound, to be wet with a one-per-cent solution of carbolic acid every twenty minutes, night and day. He had no untoward symptoms afterward, and recovered in six weeks, having no unpleasant sensations in his head or any feelings different from those he experienced before the injury.

It may be mentioned here that the writer has not seen a case of hernia cerebri treated by the perpetual wetting with a weak watery solution of carbolic acid.

In this case there was deep concussion but not marked signs of compression, and yet the cranium was so full that the dura mater filled the trephine hole with great compactness. It was impossible to ascertain the condition of the bone without an incision, and though it may be claimed that the exploration did not reveal a condition imperatively demanding operative interference yet the history of the case vindicates the propriety of the treatment.

The condition of an open wound with depression has not been here discussed, because there has never been any question as to the proper course to pursue, viz., to elevate the depressed bone. It may be mentioned, incidentally, that stitches should not be employed so as to interfere with the free discharge of effusions and exudations.

The use of a watery solution of carbolic acid has here been mentioned.

There is an objection to the employment of the dry dressing, including the Lister formula, which may not apply to all other wounds, and that objection is the fact that the shaven scalp, though admitting of tight fitting at first, soon makes a loose joint by the growth of the hairs; and again, if the joint is tight there may be the irritation attendant upon the pressure of exudations and effusions which can not escape, and if, on the other hand, the dressing is loose there may be the entrance of air into cavities which are not reached by the antiseptic which in a dry dressing can not flow into the cavities and keep them full; and again, a dry dressing can not be an agent in reducing rising temperature, and it is in the way if it is attempted to employ wet applications for cooling purposes. The employment of a dry ice-bag over a dry dressing is an unnecessary complication of treatment. Another consideration is, that a cold dry application becomes soon a cold moist application by the condensation of the moisture of the atmosphere.

The wet dressing for wounds of the head secures a perpetual cleansing as well as the desirable amount of coolness. It is not worth while to refer to authorities in the discussion of this question, for opinions based upon experience without the employment of a wet antiseptic mode of dressing are of no value.

The question of the propriety of opening the scalp where the injury itself has not occasioned an opening, and where the symptoms are not immediately urgent, turns upon the efficient use of antiseptics which while efficient do not injure living parts.

The general management is by the nearest possible approach to starvation and by rest to the utmost practicable degree during the period in which acute symptoms are to be feared.

JACKSONVILLE, ILLINOIS.

A CASE OF CROUPOUS PNEUMONIA IN AN INFANT NINE WEEKS OLD.

BY O. T. SCHULTZ, M. D.

Erwin, a strong and healthy child of nine weeks, had never been affected with any disease. On March 30th he began to cough, but very rarely, every four to six hours, a short hack. No fever; he sleeps well; breathing not accelerated; he is well in every respect save the occasional hack. On 31st the same general condition, but cough is slightly more frequent, and somewhat harder. The child's crib stands in a small, stove-heated room, and a draft sweeps over it with every opening of the street-door. The weather is fine, bright and sunny, the thermometer ranging 50°, 65°, and 55° through the day; the air, therefore, is raw and uncomfortable except at noon. In the evening the patient is feverish, breathes faster, and cough is evidently painful.

April 1st: Respiration hurried, superficial, 60; pulse 160; temperature 100.° The pain is clearly in the right side of chest. On that side there is extensive dullness, with marked tympanitic sound; the dullness extends to and above nipple; marked fremitus, large and small râles. The upper part of the right lung and the whole of the left are resonant and have no râles; cough dry and very painful.

April 2d—morning: The dullness has lost its tympanitic character; respiration 90–100; temperature slightly above normal; pulse can not be counted; cough rare; face pale, eyes closed; a considerable degree of stupor is present. Refuses "breast," but takes sugar-water from a spoon with avidity. Bowels open. Marked crepitant râles over the hepatized portion of lung, both behind and before, up to two fingers' breadth above nipple. Sub-crepitant and mucous râles are also present. Left lung remains free from all râles. Gave iodid. mercury grain $\frac{1}{160}$, and ipecac. $\frac{1}{32}$ of a grain, every hour, and ammon. carb.

gr. ½, and whisky fifteen drops, every four hours. The bowels becoming too loose as the day advances, the alterative dose is reduced one half.

Evening: Patient a little brighter; respiratory act more complete; sleep more natural, less drowsy; face is pale; takes the "breast"; cough is stronger; brings up a hardened phlegm at times. The local signs are in all respects those of lobar pneumonia in an adult. The left lung remains free.

April 3d: The cough is rare but hard and long. Slept little during night, crying almost constantly, but seemingly on account of hunger, the cough causing vomiting when the stomach is full. Gets angry and fights when the cough comes on; slight feverishness. The pulse as yesterday, respiration reduced to 80. During the day he slept well, and retained milk. In the evening is much brighter and notices his mother. The chest-signs are as yesterday. The stimulant is dropped.

April 4th: Slept well during night. Nurses well and retains food. Begins to laugh when talked to. Respiration 60; pulse 160; temperature normal. The cough is hard and long; it seems hard to bring up the secretion; gets very angry when coughing spell is upon him. Bowels normal. In right lung, soft mucous râles, and increased capacity for air, which goes in better and is expelled more completely. Signs of hepatization still complete.

April 5th: Sleeps well. Is playful. Has fallen off considerably; takes nourishment well; temperature normal; respiration 60. Bowels open. Cough not often, but hard and wearying. A very careful physical examination reveals the following: Left lung clear; an occasional soft rhonchus. *Complete dullness* is present in the lower *three fourths* of right lung. This dullness is less elastic in the lower half of the dull area, but there is no tympanitic tint to the percussion-note as there was on the first day. Increased vocal fremitus. Well-marked bronchophony more notable to-day in upper half of the dull area than in the lower. Râles are crepitant, sub-crepitant, and mucous. In upper part of the right lung an occasional large, loose râle is audi-

ble. Convalescence progressed in a most satisfactory manner, the cough ceasing on the 8th or 9th.

April 12th, the baby has entirely recovered so far as weight and appearance go. An examination shows: Feebleness of respiratory murmur, and diminished respiratory activity over the seat of the inflammation, and vocal fremitus somewhat augmented on this side. Is still taking small doses of hydrarg. iodid. at long intervals.

I have thought this case of sufficient interest to report, because of the rarity with which croupous pneumonia is diagnosed in extreme infancy; and though admitted to occur at all ages, I find, in such medical literature as I have at command, mention of but one case of the affection in a very young infant. This is by Koller, "Croupin Pneumonia in Tübingen," p. 65, and this was furnished by a child fourteen weeks old. My case is further of interest on account of the light grade of fever, the early defervescence, and the readiness with which the organism responded to the remedies employed.

Mt. Vernon, Ind.

INTUSSUSCEPTION—GASTROTOMY—DEATH.

BY W. M. FUQUA, M. D.

Mr. Ryley, fifty odd years of age, blind, previously healthy, was seized after eating his usual breakfast, April 16, 1884, with pains in his abdomen. A few hours later he had a stool, but without relief to his sufferings. Nausea, followed by vomiting, set in. He had never had hernia. During the next forty-eight hours nothing that his physician, Dr. C. R. Cullom, of Bellvue, was able to give him secured any further alvine dejections or lessened the pain, nausea, or vomiting. He had grown steadily worse. I saw the patient at this time, April 18th, with Dr. Cullom. His pulse was 100, countenance anxious and pinched, complained of great pain around the umbilicus and at a point mid-

way between the anterior-superior spinous process of the ilium and umbilicus, where there was a decided though circumscribed elevation. This, I was told, had been observed at the beginning of the attack; it was resonant upon percussion. Nausea constant, vomiting frequent but not stercoraceous, while there were eructations of gas having a fecal odor; rectal examination revealed nothing abnormal. None of the means used—and they were of the best—having made the least impression on these very distressing symptoms, and the patient being clamorous for any measure which gave promise of relief, the operation of abdominal section in order to find and free, if possible, what to our minds was almost certainly an ileus, was proposed. The patient readily acquiesced. The peritoneal cavity was reached through an incision made between the umbilicus and pubis, under chloroform and due antiseptic precautions. On introducing my hand into the abdomen I found a roll of swollen distended intestine at the site of the external swelling I mentioned. Tracing the gut downward I expected to find the obstruction, but finding none, I gently drew out the intestine and carefully examined every part of it. The jejunum and upper half of the ileum were empty, collapsed, and free from congestion or inflammation, such also was the case in the descending colon, sigmoid flexure, and rectum; but the intermediate portion, that is, ascending colon and upper portion of ileum contained a small quantity of semi-fluid fecal matter, was dark, congested, tumefied, inflamed, and at the same time largely distended by gas. I made three punctures of this portion of the gut with a small trocar, with the effect of removing the tension, and thus enabling me to handle the intestine with less risk of injury. A very carefully conducted examination of the entire intestinal tract revealed no obstruction whatever and no other morbid condition than that I have named. Is it possible that in drawing out the bowels I might have loosed a knot or freed an invagination? The intestines were now returned to the cavity and the toilet of the abdomen made after the usual manner, half grain of morphia being given hypodermically, the patient placed in bed and surrounded

by bottles of hot water. In an hour he had recovered from the shock, and expressed himself as feeling comfortable. Was not able to see the patient again; but Dr. Cullom told me he died of peritonitis the fourth day after the operation. Unfortunately no post-mortem was made.

In the Journal of the American Medical Association for September 15, 1883, I reported two fatal cases of gastro-enterotomy, and appended the following remarks, which I copy here as applicable to the case given above. These cases all teach how very difficult it is to diagnose acute intestinal obstruction; they should also teach the danger of delay.

"I place on record these fatal cases because they were fatal. Secondly, that they resulted from the direct effects of acute inflammation, and that our diagnosis was fallacious. It will be recognized that diagnosis is of the first importance, which should be determined in the onset of the case, and, if delayed, many complications must arise which would preclude the accuracy of diagnosis; and when doubt exists an exploratory incision is warranted.

"When a hernia is recognized, and taxis fails, we count it good surgery to release the incarceration, and all experience teaches the longer the delay the greater the danger. Unhappily no taxis, except in an indirect way, can be resorted to in concealed intestinal obstruction, and hence the greater necessity of prompt diagnosis, and corresponding surgical action."

HOPKINSVILLE, KY.

Reviews.

Illustrations of the Influence of the Mind upon the Body in Health and Disease: Designed to Elucidate the Action of the Imagination. By DANIEL HACK TUKE, M. D., F. R. C. P., LL.D., late President of the Medico-Physiological Association; joint author of the "Manual of Psychological Medicine;" and co-editor of the "Journal of Mental Science." Second American from the second English edition, 8vo., cloth, pp. 482. Philadelphia: H. C. Lea's Son & Co. 1884.

A good many years have passed since the date of the first edition of this work. The appearance of a second edition at this rather late day is a pleasant surprise.

The undue importance attached to what has been aptly called by the Germans the bread-and-butter sciences (*Brot und Butter Wissenschaften*) is one of the results of the utilitarian and materialistic tendencies of our time; therefore, when a book like this, of no direct practical purpose, becomes the recipient of sufficient favor to reach a second edition, it is an indication not only of its great excellence, but also of the approach of better times, when scholarship and the purely intellectual and philosophical will be appreciated aside from merely material bearings.

Dr. Tuke's book is replete with interest. It may be objected that too many of his cases are drawn from the domain of the distant past. This is certainly to be regretted. For the unbiassed and careful investigator of to-day will have no difficulty in finding cases as strikingly illustrative of the influence of the mind upon the body as any drawn by the author from the records of remoter times. It is a most able and scholarly contribution to philosophical medicine, and destined to elicit the attention and interest of all whose thoughts have been turned in this direction.

On the Pathology and Treatment of Gonorrhea. By J. L. MILTON, Senior Surgeon to St. John's Hospital for Diseases of the Skin, London. Fifth edition. New York: William Wood & Co., 56 and 58 Lafayette Place. 1884.

Mr. Milton's work, in its several editions, has now been before the public for many years. Those who read it in its first and smaller form will be struck with the many changes of views, opinions, and practice contained in the present volume—changes which we may be allowed to say add, in our opinion, greatly to the value of the book.

The author attempts in the present edition to prove that gonorrhea may, when admitting of removal, be cured without the use of the so-called specifics. "Nothing," the author adds, "has been recommended by myself in this work but what has stood the brunt, not merely of experience, for that I rate rather low, but of special observation. My aim was, as far as possible, to separate clearly what might be looked on as established from what was doubtful, and not merely to prove every assertion, but to place it on such a basis that it could not be disproved."

The volume is one of Wood's Library of Standard Medical Authors, and can not fail to interest every practitioner who is called on to treat the affection with which it deals in a very masterful way.

Elements of Chemistry. By ADOLPH WURTZ. Second American edition, translated and edited by W. H. GREENE, M.D., from the fifth French edition. 1 vol., 8vo, pp. 770, with one hundred and thirty-two illustrations. London and Philadelphia: J. B. Lippincott & Co. 1884.

The author of this treatise occupies a very distinguished position in France, and his work has met with well-merited success there. It is believed that, as it becomes more widely and more thoroughly known on this side the Atlantic, its success

here will be equally great. Much matter of importance has been added to this edition, which is intended to be fully representative of the present state of chemical science. Considerable additions have been made to the portions treating of organic chemistry. The classification of metals has been so modified as to accord with the present atomic theories. These are some of the changes and additions noticed. The volume is in every way creditable and acceptable.

A Treatise on Pharmacy. Designed as a Text-Book for the Student, and as a Guide for the Physician and Pharmacist, containing the Officinal and many Unofficinal Formulas, and numerous Extemporaneous Prescriptions. By EDWARD PARRISH, late Professor of Theory and Practice of Pharmacy in the Philadelphia College of Pharmacy, etc. Fifth edition, enlarged and thoroughly revised by THOS. S. WIEGLAND. With two hundred and fifty-six illustrations.

This great work is too well known to require any thing at the editor's hands save the announcement of the publication of a fifth edition. It is a storehouse of pharmacological knowledge, a grand monument to the learning and industry of its lamented author. It has received most careful revision at the hands of Prof. Wiegland, who has also added much new material. In its present form it embodies every thing in pharmacy which was needed to bring the treatise up to the most recent times.

Shakespeare as a Physician. By J. PORTMAN CHESNEY, M.D. 1 vol., 8vo, pp. 226. St. Louis, Mo: J. H. Chambers & Co. 1884.

The author, or rather the editor, informs his readers that this volume comprises every word which in any way relates to medicine, surgery, or obstetrics, found in the complete works of Shakespeare, with criticisms and comparison of the same with the medical thoughts of to-day. It is made up of nine

chapters devoted respectively to Obstetrics, Psychology, Neurology, Pharmacology, Etiology, Dermatology, Organology, Chirurgery, Miscellaneous.

A number of incongruous and very inferior wood-cuts here and there interrupt the text and deface the page they occupy.

The book is both curious and interesting, but the "criticisms and comparison with the medical thoughts of to-day" are not always felicitous, and appear in unfavorable contrast with Shakespeare's forcible and noble English.

The book is not without merit, and will probably be read by many, and especially by those in the profession whose previous acquaintance with Shakespeare's works has revealed to them his marvelous knowledge and accurate description of things relating to medicine.

Sexual Neurasthenia (Nervous Exhaustion): Its Hygiene, Causes, Symptoms, and Treatment, with a chapter on Diet for the Nervous. By GEORGE M. BEARD, A.M., M.D. (Posthumous Manuscript.) Edited by A. D. ROCKWELL, A.M., M.D. New York: E. B. Treat, 757 Broadway. 1884. Price, $2.00.

The task of editing the posthumous manuscript of the late Dr. Beard on Sexual Neurasthenia fell to his former associate, Dr. Rockwell. We are told by the editor that he did little more than arrange the papers in proper order, and fill up gaps here and there where the continuity was found to be broken.

No doubt the labor performed by Dr. Rockwell was one of love, and all who know him will feel sure he has done well with the materials intrusted to him; but, for all that, we can not see wherein possibly the book is likely to serve any really useful purpose.

The "transient and shadowy interest" in the subject of American neurasthenia "aroused," we are told, "by the recent and repeated indorsement of Dr. Beard's views by Herbert Spencer, on his late visit to America" will, we predict, be no

more fixed or substantial in the present work, or that its publication will add to the knowledge already possessed on the subject of which it treats, or that it will in any way add to the reputation of its author.

Post-Nasal Catarrh and Diseases of the Nose Causing Deafness. By EDWARD WOAKES, M.D. 1 vol., 8vo, pp. 224. P. Blakiston, Son & Co. Price, $1.50.

This very plain and practical treatise is offered by one well fitted by large experience and thorough familiarity with this subject to speak authoritatively and give valuable advice.

The volume is comprehensive in scope and most satisfactory in the practical and thorough execution of the work the author has assigned himself. Nothing connected with catarrh and other nasal affections causing deafness appears to have been overlooked. The illustrations are good, and the mechanical part of the book is excellent.

Medical Diagnosis, with Special Reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Diseases. By J. M. DA COSTA, M. D., LL. D., Professor of Practice of Medicine and of Clinical Medicine at the Jefferson Medical College, etc. Illustrated with engravings on wood. Sixth edition, revised. Philadelphia: J. B. Lippincott & Co. 1884.

In this admirable work a large proportion of American physicians will recognize an old and valued acquaintance from their student days. Like most of those we knew then, this one is much changed, and in many ways; but, unlike a great many men and books whose career has been equally extended, it has steadily improved. Good at first, it has become richer and mellower with each edition. Having reached the dignity of a sixth edi-

tion, having been translated into foreign languages, and been read and admired wherever English-speaking medical men are found, the reviewer has little to do with this revised edition but to announce the fact and to express the hope that the distinguished author may live to see the publication of many more editions of his work, which, next to Watson's Practice, has probably been more read and has been of more genuine service to its readers than any other medical book in the English language.

Legal Medicine. By CHARLES MEYNATT TEDY, M.B., F.C.S. Vol. 3, 8vo, pp. 321. New York: Wm. Wood & Co. 1884.

This volume contains chapters on legitimacy and paternity, pregnancy, abortion, rape, indecent exposure, sodomy, bestiality, live births, infanticide, asphyxia, drowning, hanging, strangulation, suffocation. The work embodies the lectures delivered by the author at the London Hospital during the summer session of 1882. It is constructed on the same excellent practical plan which was followed in the two preceding volumes. The matter is profoundly interesting from a medico-legal view, and includes subjects of the greatest importance to the medical jurist. Each subject is considered with care and marked ability. It constitutes a valuable addition to Wood's "Library of Standard Authors," and is well bound in uniform style with its predecessors.

Clinic of the Month.

WOUNDS OF THE INTESTINES.—The following paper was read before the American Surgical Association, April 30, 1884, by S. D. Gross, M. D., LL. D., D. C. L., Oxon., LL. D., Cantab. Added to the importance of the subject under consideration, the communication now possesses the mournful interest of being the very last ever written by its renowned and beloved author:

There are few topics in surgery that have received less attention than the nature and treatment of wounds of the intestines. Even our text-books say very little upon the subject, and that little is seldom founded upon original observation. When we consider the frequency of these lesions, their great gravity—if not almost uniform fatality, and the doubts and misgivings with which they are approached by most practitioners—it will not require any apology on my part for bringing the matter formally before this meeting.

While every other branch of surgery has been enriched by papers and monographs almost in countless numbers, the literature of wounds of the intestines is exceedingly scanty, and, in many respects, unsatisfactory. The older writers have transmitted to us nothing of value; and even as late as the close of the last and the beginning of the present century not one of our systematic writers had any fixed or settled notions upon the subject. The author who came nearest to this was Benjamin Bell, of Edinburgh, whose System of Surgery, in six octavo volumes, published nearly one hundred years ago, did much to diffuse a taste for surgery, not only in Scotland and England, but on the Continent of Europe and in the United States. It is an interesting fact that the first foundation of a rational treatment of lesions of this kind was laid in this country in 1805, by

Dr. Thomas Smith, of St. Croix, in his Inaugural Dissertation, presented to the Faculty and Trustees of the University of Pennsylvania. His experiments, twelve in number, were performed upon dogs, with a view, mainly, it would seem, of ascertaining the best mode of sewing up wounds of this description, without going at all into the question of their mode of repair. Seven years after this, namely, in 1812, appeared the admirable treatise of Benjamin Travers, of London, entitled, An Inquiry into the Process of Nature in Repairing Injuries of the Intestines. His researches were more especially directed to the elucidation of penetrating wounds, and to the proper management of the bowel in strangulated hernia—topics discussed in a very able and scientific manner. In conducting these researches, the English surgeon availed himself of experiments upon dogs, and of the ample clinical opportunities afforded him at Guy's and Saint Thomas's hospitals. I need hardly add that Mr. Travers's essay was one of the most original and important contributions made to surgical science in the early part of the century. The work was not republished in this country, and did not, I think, excite much attention even on the other side of the Atlantic. For a knowledge of its valuable contents the surgeons of Europe and America were mainly indebted to that storehouse of surgical facts, Prof. Samuel Cooper's Surgical Dictionary, a work of world-wide celebrity.

Among the French surgeons who in the first third of the present century busied themselves in enlarging our knowledge of the treatment of wounds of the intestines by an appeal to experiments upon the inferior animals may be mentioned, with special commendation, the names of Jobert, Lembert, Gély, Amussat, and Choisy, on account of the peculiar forms of sutures respectively recommended by them.

Convinced that this department of surgery was susceptible of still further investigation, I commenced a series of experiments in 1841, which was continued, with occasional intermissions, until the end of 1843, when an account of them was published in the Western Journal of Medicine and Surgery, issued at

Louisville, under the editorship of Drake, Yandell, and Colescott. A small edition was also issued in separate form, but, as the printing office in which it had been stored away was soon after consumed by fire, few copies were saved. Hence the reason why such little notice has been taken of my labors. Indeed, the only account I have ever seen of them is comprised in the Surgical History of the War.

The object which I had in view in undertaking these researches was, first, to ascertain the process employed by nature in repairing wounds of the intestinal tube; and, secondly—and more particularly—to determine, if possible, the best methods of treatment. The experiments, upward of seventy in number, were performed exclusively upon dogs, as the most eligible animals that could be selected for the purpose. The wound was generally made in the small bowel, not only because it is more readily accessible than the large, but because, when injured, it is more liable to give rise to extravasation of fecal matter, and also, possibly, to high inflammation.

Gun-shot injuries of the bowels, so common during the war of the Rebellion, are more ably and fully discussed in the Surgical History of the War than in all other works put together, and what is true of wounds caused by firearms is equally true of other injuries of the intestinal canal. Dr. Otis spared no pains to embody in his chapter on this subject the latest information to be found in the magnificent medical library accessible to the Surgeon-General of the Army and his intelligent and laborious assistants, to whom the profession is so much indebted for our Army Medical Reports.

Wounds of the intestines may, like similar lesions in other structures, be incised, contused, lacerated, or punctured, the latter including those made by gun-shot. Incised wounds are occasionally inflicted accidentally upon the bowel in hysterectomy and ovariotomy, and in operations performed for the relief of strangulated hernia. All injuries of this kind of the intestinal tube, whether single or multiple, simple or complicated, derive their chief importance from two sources—escape of fecal matter

and peritoneal inflammation. The accompanying hemorrhage is generally a subordinate occurrence.

The manner in which wounds of the intestinal tube are repaired depends very much upon their character. Simple incised wounds, if properly treated, heal by union by the first intention, as similar wounds involving the skin, muscles, and other structures; that is, the effused plasma soon becomes organized and is transformed into cicatricial tissue. When the suture is carried through the mucous membrane the healing process is more tardy, and, if some of the stitches should give way prematurely, so as to allow the edges of the wound to gap, the union will be effected mainly through the agency of the serous coat. Granulations always form with difficulty, and rarely afford much aid in filling up the breach. In nearly all of my experience upon dogs, I noticed that the wounded bowel at the seat of the injury was speedily glued either to the omentum or to some adjacent coil of intestine, thereby forming, in most cases, an effectual barrier to fecal effusion. Conjecturally, we may assume that a similar occurrence obtains in a human subject. The ligatures, when the ends are cut close, are always discharged into the interior of the tube, the period at which this takes place varying with many circumstances from ten to fourteen days, as the ordinary average, to three or four weeks, as the extreme. Lacerated, ragged, contused, punctured, and gunshot wounds heal in the same manner as incised, but the process is more tardy and more liable to fail. When wounds, of whatever kind, are left to themselves, or to the unaided efforts of nature, the subjects of them either perish from their effects, as fecal effusion, peritonitis, hemorrhage, or septicemia, or, if they recover, their safety is due to the adhesions which the injured portion of the tube contracts with the surrounding parts.

The diagnosis of wounds of the bowel is a matter of primary consideration, as upon its prompt determination the success of our treatment must mainly hinge. The possibility of this will, of course, mainly depend upon the situation in which the bowel is found at the time of the accident. If it has escaped through

the wall of the abdomen, it will generally be easy to find the injured part by the egress of some of its contents, as feces, mucus, or bile, or all these together; and so also when there is a discharge of some, or all, of these substances through the outer wound, although there is no protrusion of the intestine. The coast in both of these conditions is sufficiently clear, so clear, indeed, that he who runs may read and accurately interpret. But it is altogether different when the abdomen has been pierced by a narrow instrument, as a knife or a dirk, or perforated by a bullet. In such an event the bowel does not protrude, and hence the true nature of the case must be solely a matter of conjecture. All that is positively certain in such event is that there is a wound in the wall of the abdomen. The surgeon, especially if called immediately or soon after the receipt of the injury, must be in doubt whether the weapon has entered the bowel or not. In reflecting upon the subject, he recalls the fact that a bullet, a rapier, a sword, or a ramrod has occasionally passed through the abdomen, and, perhaps, even emerged at the opposite side, without in the slightest degree interfering with any of its contents. The records of surgery furnish many such cases.

The two principal signs which must serve to guide us in these uncertain cases are tympanites and a discharge of blood by the anus. The occurrence of tympanites is unquestionably a symptom of great value. Jobert, who was the first to notice it, regards it as the most reliable of all the phenomena when there is no escape of feces, mucus, bile, or other fluid at the abdominal wound, and in this opinion the results of my personal observation fully coincide. The tympanites supervenes at various periods; sometimes almost immediately after the wound in the bowel has been received, and is then always of proportionate diagnostic value; at other times it supervenes very gradually, and in some cases again it does not make its appearance under twenty-four, thirty, or thirty-six hours. However this may be, it is always diffused, not circumscribed, and sometimes reaches an enormous height, the belly emitting a hollow, drum-like sound on percussion, and is then always very painful.

Although tympanites is generally present in lesions of this kind, there are cases in which it is entirely absent, as, for example, when the wound in the bowel amounts to a mere puncture, in which the opening is effectually closed by the protrusion of the mucous membrane, thereby preventing all escape of gas into the peritoneal cavity.

A discharge of blood by the anus I regard as a very valuable symptom of the existence of a wound in the bowel. It is especially valuable when it makes its appearance within a short time after the infliction of the external wound, and when it continues more or less abundantly for some days afterward. As the blood is always intermixed with the contents of the bowels, it seldom comes away in a pure state, but is generally of a dark color and of a grumous consistence.

No useful conclusions can be deduced from the shock and the pain which attend the lesions of this character, since both vary greatly in different cases and in different circumstances, some persons suffering very little, while others, owing to the peculiarities of their nervous endowments, experience extreme distress.

In regard to probing wounds of this kind, the universal sentiment of the profession is opposed to it on the ground that, while it can do no good it would often be productive of great harm by disturbing the relation of parts, and thus endangering fecal effusion. I do not think, however, that this rule should apply to the mural wound. Here a probe, properly used, might at least afford useful information in regard to the direction and extent of the external injury.

In the treatment of wounds of the intestines two leading indications are scrupulously to be kept in view—the prevention of fecal effusion, and the occurrence of peritonitis. To secure the first, the only safeguard is efficient suturing of the wound. A case, it is true, occasionally recovers without any precaution of this kind, but this is owing to good luck rather than to good treatment. There was a time when surgeons, even of great distinction, considered the employment of

sutures in wounds of the bowel utterly useless, if not absolutely detrimental. John Bell, a specious writer and an eloquent lecturer, who flourished in the early part of the century, and one of whose chief delights it was to walk roughshod over the teachings of his predecessors and contemporaries, declared that, if there be in all surgery a work of supererogation, it is the sewing up of a wounded gut. He taught that there was no peritoneal cavity, and that, consequently, there could be no fecal effusion in wounds of the bowel. The illustrious Scarpa, of Italy, for a long time the only great surgeon of that country, was equally prejudiced against the use of sutures; he considered them not only useless, but even dangerous. The practice in those days, and even at a much later period, was, in all lesions of this description, to pass a suture through the wound, and to bring out the ends at the external opening, a practice necessarily and inevitably followed by an artificial anus, and one by no means always, if indeed generally, free from the risk of fecal extravasation. The late Professor Gibson, of Philadelphia, writing in 1838, advocates a similar procedure; and Professor Syme, of Edinburgh, four years later, expressed himself to the same effect. These views may be regarded as a pretty correct expression of the teachings of surgeons in regard to this class of injuries forty-five years ago, notwithstanding the light that had been thrown upon them by Travers, Sir Astley Cooper, Lawrence, and others in England, and Jobert, Lembert, Gély, Choisy, and others in France.

The question here naturally arises, Should all wounds of the bowel, however small, be sutured? Upon this subject there was certainly, till recently, if indeed there is not still, some diversity of opinion. Dionis, Palfin, Heister, and Sabatier state that enterorrhaphy is unnecessary when the wound does not exceed the diameter of a goose-quill or a penknife; and views of a similar nature are to be found in other writers, as Sharp, Richerand, Boyer, and Jobert. On the other hand, there are surgeons who are opposed to the return of the bowel into the peritoneal cavity, however small the intestinal wound, without

the employment of sutures, lest fecal extravasation should ensue. The great Benjamin Bell, of Edinburgh, writing near the close of the last century, holds, in the midst of the darkness that surrounded him, the following emphatic language: "However small a wound," he says, "of the intestine may be, it ought always to be secured with a ligature, for although it is alleged by some that we should rather trust to nature for the cure of a small opening than to insert a ligature, to me it appears that the opinion is by no means well founded, insomuch that I would not leave even the smallest opening that could admit either feces or chyle to pass, without stitching it up. Much danger may ensue from omitting it, and the hazard of the patient can not be increased by the practice being adopted."

This advice of the sagacious Scotchman, so clearly and emphatically enunciated nearly a century ago, is now the universal practice in all cases of wounds of the bowel, however diminutive, based as it is upon the well-ascertained fact that enterorrhaphy, when properly performed, is a harmless operation as compared with the risk of fecal extravasation and the consequent certainty of peritonitis.

It was with a view of testing this very matter, by determining how far even a small wound of the bowel might safely be intrusted to nature for a cure, without the aid of sutures, that I was induced to undertake the elaborate series of experiments alluded to in the opening part of this paper. These researches afforded abundant proof of the correctness of Mr. Bell's views; for, although I found that the wound, when it did not exceed two lines, or the sixth of an inch, was always closed by the intrusion of the mucous membrane, yet this did not always protect the parts from the effusion of fecal and other matter. Hence I have ever since laid the greatest stress, both as an author and as a public teacher, upon the importance of close suturing in all wounds of the intestines, however small. It is easy to conceive that even a very small wound, although completely occluded by the mucous coat at the moment of the restoration of the bowel, might, by the transit of stercoraceous matter, or by violent per-

istaltic action, become so unlocked as to admit readily of the escape of fluid or solid substance into the peritoneal cavity. Let it ever be borne in mind that the smallest possible quantity of fecal matter would be sufficient, certainly in many cases, if not in all, to light up fatal inflammation; and let this fact serve as the key-note to our practice in all cases of wounds of this description.

Judging from the results of my own observations, I have long been of the opinion that there are only two sutures that should ever be employed in sewing up a wounded bowel. These are the continued and interrupted, with the modifications of the latter by Lembert and Gély. As to Jobert's method, which consists in invaginating the ends of the bowel, when completely cut across, so as to place the two serous surfaces in immediate contact to facilitate their prompt union, the operation is not only extremely difficult, but very liable, even if successful, to be followed by more or less contraction of the tube at the seat of the injury, thereby interfering more or less seriously with the transmission of its contents.

The interrupted suture is, as a rule, preferable to the continued in all wounds of the bowel, whatever their extent or direction, whether they embrace the entire caliber of the tube or only a limited portion, and whether they are circular, oblique, or longituninal. The operation executed with a long, slender sewing-needle armed with a thin but strong, well-waxed silk thread, is comparatively simple, affords ample security against fecal effusion, and is never followed by injurious contraction of the tube. The sutures should be placed not more than one line and a half, or the eighth of an inch apart, and the ends, tied in a double knot, should be cut off close, so that, in time, the sutures may find their way into the bowel and be discharged along with its contents. I deem it very important that each suture should be fully one line from the edge of the wound, and that the needle should be passed deeply through the wall of the bowel instead of embracing its entire thickness, an arrangement which would almost inevitably be

followed by more or less puckering, and by the consequent retardation of the cure. The operation of uniting the bowel where the division is complete will be greatly facilitated if the first suture be inserted at the mesentery and the second immediately opposite.

The best, certainly the safest, ligature for suturing a wounded intestine is ordinary sewing-silk, well waxed, and inserted with a long, sharp sewing-needle. The carbolized catgut ligature is liable to give way prematurely, and should therefore be avoided. In the modification of this suture by Lembert, the object is to invert the edges of the wound so as to bring the two serous surfaces in immediate and firm contact to establish, as it were, union by the first intention. Great advantage has been claimed for this form of suture, but this is not so apparent when it is remembered that, unless great care be taken in introducing it, it is liable to be followed by more or less contraction of the tube. In making this suture, the needle makes two dips on each side of the wound instead of one, as in the ordinary procedure.

"Gély's suture, which is merely a modification of that of Lembert's, is made with two needles inserted near the angle of the wound, about one line from its edge; they are then carried along the interior of the bowel, parallel with the wound, for the sixth of an inch, when they are brought out precisely at the same level, so as to appear again on the peritoneal surface. The threads are then crossed, the right needle being passed through the puncture made by the left, and conversely, when the ends are firmly tied and cut off close as in the ordinary operation. The number of sutures varies, of course, according to the extent of the cut. In this way the edges of the wound are thoroughly inverted, and consequently all danger of fecal effusion is prevented; the coaptation, in fact, is so accurate as to conceal the ligatures."*

The treatment of wounds of the bowel by the continued suture has afforded good results in my experiments upon dogs. The chief objection to it is that it leaves the edges of the wound in an uneven, puckered condition, which interferes perhaps

* Gross's Surgery, vol. ii, p. 613, sixth edition.

somewhat with rapid union. This, however, may be prevented in great degree, if not wholly, by the employment of a double thread, after the fashion of the glover, although I do not consider this at all essential to success. Of the seventeen experiments performed with a single ligature, not one terminated fatally. The wounds in two of the cases were transverse, oblique in three, and longitudinal in twelve. The wound in one of the latter was six inches in length. The dog, a large, old one, was killed on the twentieth day, when every trace of suture had disappeared, with the full restoration of the caliber of the tube. I must not omit to state that in all these experiments the suture was passed through the fibrous tunic of the bowel, or, in other words, outside the mucous membrane. We have here, then, also a very valuable suture for sewing up wounds of the intestines, especially well adapted to the treatment of longitudinal and oblique wounds; not so well, I think, to the treatment of transverse ones as the interrupted.

The suturing of the wound having been completed, and any foreign substance that may be present removed, the bowel is restored to its natural situation, followed by the omentum, in the event of its prolapse. It is hardly necessary to say that the protruded structures should be treated in the most gentle manner; any wiping that may be required should be performed with the softest cloth, and all firmly adherent matter should be picked off with the forceps. Generally speaking, the best way of cleaning the parts is to make free use of the syringe, charged with warm water. The operation may be completed with a one-to-one-thousand solution of corrosive sublimate. The return of the bowel will be materially facilitated by the use of a little olive oil. If any serious obstacle offer, it must be surmounted with the probe-pointed bistoury, or by puncture of the tube, if it depend upon the presence of gas. The wound in the wall of the abdomen should be closed in the same manner as in ovariotomy, the sutures being carried through the peritoneum so as to protect the parts effectually against hernial protrusion, a thing never to be lost sight of after such lesions.

The question arises here, What should be the conduct of the surgeon when the bowel is wounded, but not prolapsed, owing to the small size of the mural opening? I do not think that I can answer this question better to-day than I did forty years ago, when we knew comparatively little of abdominal surgery, and when the most visionary enthusiast could not have dreamed of half the triumphs that have since awaited it. The case in question is a suppositious one, and is thus stated: "A man, after having indulged in a hearty repast, receives a penetrating wound in the abdomen from the thrust of a dirk or knife; the bowel is pierced, or, it may be, nearly divided, and there is a copious discharge of fecal matter, both externally and into the peritoneal cavity, as is evinced, in the latter event, by the excruciating pain, the gastric oppression, and the collapsed condition of the sufferer. Here the most prompt and decisive measures must be resorted to, or the person will perish from peritoneal inflammation with as much certainty as if his skull had been fractured and a portion of his brain had been let out. It will not do for the surgeon to fold his arms and look upon the scene as an idle and disinterested spectator. Far otherwise; he has a duty to perform, and that duty consists in dilating the external wound, if it be not already sufficiently large, in hooking up the injured bowel, and in closing the solution of continuity with the requisite number of stitches, at the same time that the effused matter is carefully removed with tepid water and a soft sponge. All wiping must, of course, be carefully avoided, as this would add much to the risk of peritonitis.

"By the above procedure, which, under the circumstances pointed out, I should not hesitate to pursue, the patient is not placed in a worse condition than a female who has undergone the cesarean section, or a person whose abdomen has been ripped up in the first instance; recovery from both of which is not, as is well known, of infrequent occurrence."*

It is a rule with all educated surgeons to do the work which

*An Experimental and Critical Inquiry into the Nature and Treatment of Wounds of the Intestines. Pp. 341. Louisville, 1843.

they are called upon to perform in as complete and thorough a manner as possible, and nowhere is this precept of greater importance than in the treatment of wounds of the intestines. A case recently reported by Professor W. O. Roberts, of Louisville, Ky., will aid me in illustrating my meaning. A man was cut in the abdomen with a pocket-knife; the wound was three inches long; the bowel protruded, and was pierced at two points, one opening being of the size of a common lead-pencil, the other of a pea. The knife in its passage had stripped off the serous membrane over a space of one inch by one quarter. There were two slits in the mesentery, each one inch in length; and the patient had lost much blood. The mural wound was closed by sutures which embraced only the skin and superficial fascia. None of the bleeding vessels had been secured, and active bleeding was still going on from three points in one of the wounds in the mesentery, the other being occupied by a clot. It was in this condition that the man was found by Dr. Roberts, shortly after his wounds had been dressed by another surgeon. Satisfied at a glance that the case had not been properly managed, Dr. Roberts re-opened the mural wound, secured the bleeding vessels with carbolized catgut ligatures, stitched the openings in the gut more thoroughly, washed out the peritoneal cavity with hot carbolized water, and closed the abdominal wound with deep sutures, completing the dressing by inserting a drainage tube in the lower angle of the wound. Under this treatment, with proper subsequent care, the man made a rapid recovery. Had the dressing originally applied been allowed to remain, death would have been inevitable; either from hemorrhage, peritonitis, or peritonitis and septicemia.* The case affords a happy exemplification of hasty, careless, slovenly surgery on the one hand, and of thoughtful, wide-awake, scientific surgery on the other.

The therapeutics after all such lesions is sufficiently simple. The great point is to prevent peritonitis, or to combat it, if it takes place. The posture should be such as to relax thoroughly

*American Practitioner, January, 1884.

the abdominal muscles. The bowels should be locked up with opium to prevent peristaltic action, and nothing but iced water or pounded ice, aided, if there be much gastric distress, by a small allowance of dry champagne, should be permitted during the first three or four days. Oppression from gas should be relieved with injections of turpentine and assafetida. Peritonitis should be met with leeching, followed by vesication with cantharidal collodion, and full doses of opium; venesection will be proper when the patient is young and robust. A laxative of castor oil, or of sulphate of magnesium, may be given at the end of five or six days, if there be marked suffering from tympanites. The urine should be drawn off during the first few days with the catheter.

I have, thus far, said nothing of gun-shot wounds of the intestines. Such wounds are generally of a very serious nature, and are therefore liable to be followed by the worst consequences. In the first place, they are nearly always concealed wounds, from the fact that there is no prolapse of the bowel; secondly, such wounds are commonly multiple, as in one of my own cases, in which there were as many as eight perforations—two in the ileum, two in the jejunum, two in the duodenum, and two in the arch of the colon; thirdly, there is always more or less copious effusion of fecal matter; fourthly, great shock, to say nothing of hemorrhage, nearly always attends; and, lastly, most patients who survive the more immediate effects of such injuries are almost certain to succumb to peritonitis. The only rational treatment in such cases is to expose at once, or with the least possible delay, the peritoneal cavity, to stitch up or excise the wounded bowel, and lastly, to clear away all extraneous matter. Excision of the tube is imperatively demanded when the wound is very large, severely contused, or very ragged. Nothing short of this would answer under such desperate circumstances; and even then no sensible surgeon would venture to pronounce a favorable prognosis.

It was my purpose in connection with this paper to offer some remarks on excision of the intestine in gangrene from

strangulation in hernia; but it has already so far exceeded the limit originally assigned to it that I must confine myself to a few passing sentences.

The first operation that was ever performed for such an object occurred in the hands of Randohr, a German surgeon who flourished in the early part of the last century. His patient was a woman, the subject of a strangulated femoral hernia, and, although fully two feet of her small intestine were removed, complete recovery ensued. This remarkable case remained for a long time a solitary illustration of the manner in which a man, inspired by genius and the gift of prevision, may project himself into the future far in advance of his plodding contemporaries. Toward the close of the last century and the beginning of the present, operations of this kind became more frequent, chiefly through the labors and writings of Sir Benjamin Travers and Sir Astley Cooper, of London; Duverger, Boyer, and Lavielle, of France; and Schmidt and Dieffenbach, of Germany. In this country, the first case of the kind occurred in the practice of the late Dr. Charles Luzenberg, of New Orleans, in 1846. The case was one of strangulated inguinal hernia, in which that distinguished surgeon, on the basis of the recommendation contained in my monograph on wounds of the intestines, excised six inches of the ileum and succeeded in curing his patient. Operations of this kind, dating from these humble beginnings, now justly rank among the established resources of surgery. In an article published in the Medical News for March 15, 1884, Prof. S. W. Gross refers to sixty-seven cases of this kind in the hands of different surgeons, nearly all European, of which twenty-one made complete recoveries, two escaped death (with an artificial anus), and forty-four, or sixty-five per cent, perished. This remarkable mortality seems to have been due, not, as one might *a priori* have supposed, to peritonitis, but to the unsound condition of the bowel beyond the seat of the gangrene, a fact of great practical value, and one that should not be lost sight of in operations undertaken for this purpose.

THE MODERN CURE OF HYDROCELE.—Of the curative measures, the one that is most frequently resorted to is the injection of tincture of iodine, either pure or diluted with an equal weight of water, or in the form of Lugol's solution. Unless we greatly mistake, the profession is inclined to regard this operation as being absolutely safe and certain in its results, despite the fact that there are not a few isolated examples of death following its employment, to say nothing of the occurrence of shock, severe pain, undue inflammation, and gangrene of the scrotum, even in the hands of experienced surgeons. That the failures have been underestimated, and that some of its risks are not sufficiently well appreciated, becomes apparent from an analysis of five hundred and twenty-three cases which we have collated from the practice of Billroth, Esmarch, Kocher, Volkmann, Krabbel, Jacobson, Osborn, and Abbe. Of the entire number, the disease recurred in forty-four, or 8.4 per cent, while acute suppuration supervened in five, or 0.95 per cent—two after the use of equal parts of the agent and water, and three after the injection of the compound tincture. It may be remarked that the failures are as common after the injection of one solution as another, and that about three weeks are required to effect a cure.

Within the past decade the treatment of hydrocele by antiseptic incision has been much practiced, particularly in Germany. In this operation, to which the name of Volkmann is attached, the scrotal tissues are freely divided, under the spray, down to the vaginal tunic; bleeding vessels are secured; the sac is opened by an incision of similar length, and syringed out with a three-per-cent solution of carbolic acid, when the edges of the serous membrane and external wound are united with catgut sutures, a short drainage-tube being inserted at the most dependent portion of the cut, and the parts firmly occluded and compressed by carbolized gauze and bandages.

The advocates of this method declare that it is absolutely safe, certain, and rarely attended with surgical fever; but their positive statements are not sustained by an examination of two

hundred and fifty-four cases, recorded by Volkmann, Kuester, Weir, Englisch, Albert, Lister, and Jacobson. Of this number, not only did the fluid reaccumulate in three, or 1.18 per cent, but two patients, or 0.79 per cent died, respectively, of septicemia and pyemia. In addition to these evils, carbolic acid erythema, abscess in the connective tissue, and partial sloughing of the edges of the wound have not infrequently been observed, and orchitis has now and then been met with. Although a cure is secured in about ten days, the parts remain tender, hard, and swollen for about three weeks in the majority of cases, so that the subject really does not move about with comfort for one month. It should be noted that the advocates of the operation have referred the tenderness and tumefaction to the plastic infiltration of the vaginal tunic, through which the obliteration of the cavity is secured, while its opponents have ascribed it to orchitis and epididymitis. That neither of these views is correct, is shown by a case recorded by Kraske, in the *Centralblatt für Chirurgie*, in which death ensued on the tenth day from intercurrent pneumonia. There was no lesion whatever of the organs referred to; but the swelling was due to a clot of blood undergoing connective-tissue substitution, or so-called organization, at its periphery. The result of this examination led, in the succeeding thirty-one cases in Volkmann's clinic, to the careful securing of all vessels, so that the tumefaction was reduced to a minimum in the majority and was entirely absent in a few. In a second case of death from internal strangulation of the intestine on the tenth day, Julliard was enabled to confirm the statement of Kraske.

The operation of Volkmann has been variously modified, with the view to dispense with a large incision and shorten the duration of the treatment. Thus, Volkmann himself, Reyher, Trendelenburg, and Weir made a small puncture or incision, washed out the cavity with a carbolic-acid solution, and inserted a small drainage-tube. The disadvantage of this procedure is that the small opening may close after the removal of the drain, before firm adhesions have taken place, through which there will

be danger of recurrence, as happened in one of the ninteen cases which it has resorted to. Jacobson, in three successful cases, opened the sac by a cut about two inches long, and excited the formation of granulations by inserting a narrow strip of gauze soaked in carbolized oil. Finally, Julliard incises the sac freely; removes with the scissors or spoon any pathological products which may exist on the vaginal tunic, the testicle, or the epididymis; ties all bleeding vessels; resects the vaginal tunic, so as to leave enough to cover the testicle and the cord; unites the edges of the tunic with catgut sutures; inserts a rubber drainage-tube in the lowermost portion of the external wound, and closes the latter with catgut. Of his fifty-four cases, there was recurrence in one, which was probably due to the irritation produced by the decalcified bone drain, which was found, at the end of fifteen months, to have undergone no change whatever, and one patient died of internal strangulation in ten days. Hence, of three hundred and thirty examples of antiseptic incision of the sac, there were two deaths, a mortality of 0.6 per cent, and five recurrences, or a percentage of 1.5. These disadvantages and risks are offset by the short time required to effect a cure, although the parts remain swollen and tender for about three weeks.

Antiseptic incision has materially increased our knowledge of the changes which occur in the sac and its contained organs. Thus, in the fifty-four cases recorded by Julliard, and in sixty-nine reported by Genzmer, from Volkmann's clinic, in the *Sammlung klinischer Vorträge*, or in a total of one hundred and twenty-three, cysts were found on the vaginal tunic, the testicle, or the epididymis in forty-three, the testicle and epididymis were enlarged in twenty-three, the vaginal tunic was thickened in fifty-four, false membranes were present in twenty-six, and free or attached foreign bodies were met with in three. These abnormal products are regarded by some teachers as being the cause of recurrence after the treatment by injection; but we are of the opinion that they indicate merely that disturbances in the secretory apparatus of the male genital organs occasion hydrocele as well as the lesion referred to.

For the past three years, Dr. Levis has resorted to the injection of from thirty to sixty grains of the deliquesced crystals of carbolic acid into the sac, but with what results we are not informed, save in the general statement that the treatment has been almost uniformly successful. The method is certainly painless, is not productive of shock, involves no trouble, and is speedily carried out. The patient need not keep his bed longer than a few days, but the swelling does not disappear, on an average, before the expiration of one month. Of eighty-two cases, in the hands of Weir and Abbe, suppuration occurred in three, in one of which the sac sloughed; but the amount of the agent used—from two to three drams—was too large. In a fourth case the sac rapidly filled with bloody serum, which had to be let out. These drawbacks may be met with even when a small quantity of the remedy is employed. Thus, in two cases under our own care, the injection of one dram was followed by a large effusion of blood into the sac, an accident which is doubtless due to the separation of the endothelium and the rupture of the underlying vessels of the vascular connective tissue. Suppuration ensued in a case recently treated with twelve minims by Abbe, and in one, now in the Jefferson Medical College Hospital, from the injection of half a dram. No death has as yet been recorded; nor has recurrence or carbolic-acid absorption been observed.

An analysis of the facts contained in the preceding paragraphs warrants the conclusion that antiseptic incision of the sac is too severe for ordinary cases, and that it should be reserved for those in which the vaginal tunic is much thickened, and for examples of recurrence after the employment of simpler methods. Although the injection of from thirty to sixty grains of liquefied carbolic acid, as a curative measure, has not as yet been sufficiently tested, we think that we are justified in predicting that it will prove to be the simplest, safest, and least inconvenient of all the measures heretofore employed for the cure of the very common affection under consideration.

[The prediction contained in the last paragraph of the above

instructive *resumé*, was foreshadowed by Dr. Sandidge, of Edmonton, Ky., in the AMERICAN PRACTITIONER in 1871, based upon the use of carbolic acid in two cases, and though attention has been called on three occasions in these pages to the subject, the credit of the practice is still given by our Philadelphia contemporary to that excellent surgeon, Dr. Levis.—Editor AMERICAN PRACTITIONER.]

A RAMROD IN THE BRAIN.—Dr. Fisher read the following translation: Under the title "A Ramrod in the Brain—Recovery" (*Deutsche Zeitschrift f. Chir.*), Dr. Fischer, of Hanover, relates the following case: By the premature discharge of a rifle the ramrod was shot into the back of a laborer seventeen years old, passing out on the top of the head. The rod was fastened so firmly that the patient was dragged some distance over the ground during an attempt to extract by pulling. Patient was said to have lain motionless in the beginning, with closed eyes, rattling in the throat, not answering questions. A physician arriving soon after found that he had vomited, suffered with nausea, but answered questions correctly. He was then sent to a hospital, about four miles distant, where he arrived three and a half hours after the accident. Fischer found that the rod projected from a point eight centimeters above the left for. supra orbital, to a length of thirty centimeters in an oblique direction toward the left, firmly encircled by the skin, and no bleeding. Upon the neck, below the angle of the right jaw, a hard painful swelling was noticed. Between the right shoulder-blade and the spine, opposite the fourth costal vertebra, a gun-shot wound was found of the size of a penny and with blackened edges. The coat showed a corresponding larger hole, likewise the vest, and the hat a smaller one. The patient gave correct answers, narrated the incident, was able to stand, but felt weak and lay mostly with closed eyes. He complained of pains in the head and upon the right side of the neck; could not see as well as usually; vomited some blood; sputa blood; pulse arythmic, 60; breathing and respiratory sounds normal. As the ramrod

had the usual button-like expansion on the lower end, extraction had to be made from this point. Without injury to the blood-vessels the button was brought to view by an incision upon the neck six centimeters in length. The rod was then loosened in the cranium by an incision through the skin and enlarging the hole in the bone, which was not fissured, with a hammer and chisel. The rod was then driven downward by some sharp blows of the hammer upon the upper end. By this manipulation the button was driven deeper into the soft parts, against which a change of position availed nothing, so that enlargement of the incision of the neck had to be made by another incision sideward, thus forming a flap which could be drawn aside. It was now possible after several more blows with the hammer, twenty to thirty in all, to carry the lower end over the clavicle and finally withdraw the rod by traction upon the lower end. There was no bleeding; the wound was disinfected, sutured, drained, and the Lister bandage applied over all wounds. The patient was conscious during the whole proceeding, no narcosis being used. The following day he was restless, vomited, lost sight of right eye, although the bulb was normal. Altogether the healing process ran its course without any remarkable disturbance, and on the thirty-fourth day the wound of the skull had healed. Examination of the right eye showed the refracting mediums intact, the papilla had irregular outlines, was opaque, of whitish reflection, somewhat retracted; the blood-vessels were thinner than upon the left eye and atrophic in character. The patient was discharged well on the sixty-eighth day.

Eleven months later the man was able to perform hard labor, to dance, etc.; the right eye remained amaurotic. One remarkable symptom of the case was that the patient could not remember what had happened from the time he had been shot until several weeks thereafter; he knew nothing of the operation, nor even how he came into the hospital, although, as above stated, he was perfectly conscious during the whole time.

Experiments were made in Göttingen, under the direction of

Professors Henle and v. Brum, to define the course of the rod. From these and the symptoms of the case the following course was determined: After entering the back on the right side of the spine, opposite the fourth costal vertebra, the rod passed between the mus. splenius cervices and m. levator scapul. without injury to the thoracic cavity. It then passed to the front of the ven. jugul. int. and the art. carot. comm. near the bifurcation; behind the m. sternocleido mastoid, the posterior belly of the m. biventer, the m. stylohyoid, and m. stylogloss., avoiding important blood-vessels and nerves, also the pharynx, but grazing the right tuba. Behind the posterior edge of the median root of the process pterygoid, the rod passed into the cranial cavity, crossed the right sin. sphenoid, passed through the right canalis opticus, then upon the limbus sphenoidalis, from whence it struck the right gyrus, then passed between the hemispheres upward on the left of the falx cerebri. The further passage then lay between the two gyri fornicati and immediately in front of the anterior edge of the gen. corp. callos, through the left gyri frontal, and out through the frontal bone. The fortunate termination of the case was no doubt due to the fact that no important vessels, nerves, or portion of the brain had been injured.

Duration of the Menstrual Hemorrhage in Relation to the Development of the Fetus at Term, and to Multiple Pregnancy.—In this paper the author seeks to establish his conclusions on the basis of much statistical material collected in the clinics of Modena, Milan, and Turin. He was led to this research by the idea that by the amenorrhea of pregnancy a so much greater quantity of maternal nourishment was retained for the benefit of the fetus, as the sanguineous loss was greater in menstruation. Not being able to determine exactly the quantity lost at each period, he took its duration as a guide, which, considering the number of his observations, may be regarded as more or less equivalent. As to a longer duration of the menstrual hemorrhage, a corresponding ovarian activity can be supposed; so also the hypothesis may be justified of a more easy

rupture of more ovisacs, and a greater probability of multiple pregnancy. From the analysis of very numerous observations, Professor Cuzzi thinks himself justified in formulating the following conclusions: (1) The weight and length of the fetus at term are in direct relation with the number of days menstruation occupied. The longer the usual period of menstruation, the heavier and larger the fetus. (2) There is a direct relation between multiple pregnancy and the duration of the menstrual period. That is, multiple pregnancy is most frequent in women in whom the period is long and the loss free. (London Medical Record.)

Operation on the Brain for the Relief of Left Hemiplegia.—At a meeting of the Pathological and Clinical Society of Glasgow, on January 21st, Dr. Macewen showed a patient whose brain had been operated upon for the relief of left hemiplegia, and who has recovered the power of movement to such an extent as to enable her to walk freely about, though with a paraplegic gait, to raise her arm to the level of her shoulder, and to grasp with considerable power, though there is a deficiency in co-ordination of movement of the hand. She had a syphilitic history. The hemiplegia was preceded by a tingling sensation and numbness of the left arm and leg, which increased until it ended (within six weeks from the commencement) in complete motor paralysis and a deficiency in the perception of touch. The left side of the face was also slightly affected. This was accompanied by mental confusion and loss of memory.

Full antisyphilitic treatment had been tried, along with counter-irritation to the head, previous to her coming into the Royal Infirmary, and while she was in the medical wards of that institution. These did not seem to have relieved in the slightest the condition spoken of above.

Trephining was performed over the middle of the ascending frontal and parietal convolutions. Internal table of the disk removed was found softened and thicker than usual, having on its internal surface a series of projections or roughnesses, some

protruding for nearly one eighth of an inch beyond the general level. A second opening was made over the occipital region, and a similar thickening of the internal table was found. Opposite to the first opening the dura mater was paler than normal, and somewhat thickened. It was elevated, and a false membrane of yellow color and about one sixteenth of an inch in thickness was removed. An incision was made into the brain in the direction of the paracentral lobule, when a gush of grumous red-colored fluid escaped out of the opening. Its quantity was not measured, as it could not have been collected. Approximately, there would be about a couple of drams. The brain pulsations previously were not discernable, but, after the escape of this collection of fluid, it was thought that very feeble pulsations were seen. Some of the surgeons standing by doubted the presence of the cerebral pulsation. The disks of bone were carefully divided into segments and replanted, and are now quite firm. Wounds treated without pus production.

The day after the operation she expressed herself as very much better. On the third day she moved her toes. Within a week she lifted her leg from the bed and stated that she was so much better that she could turn in bed, and believed she could walk. The fingers were moved within a week. Her mind greatly changed for the better, her memory improving and her intelligence becoming much brighter. She can now walk freely about, and does a considerable amount of domestic duty in the ward. She lifts her arm to the level of her shoulders, and can grasp with considerable force.

Dr. Finlayson said that he had lately had the opportunity of seeing this case, at Dr. Macewen's request, in private, and he thought that there could be no possible doubt that the improvement which had taken place was due to the operation. It is known that in such cases as this remarkable improvements do take place as the result of purely medical treatment, but in this case it is certain that the improvement was due to the operation. This method was quite a new one, and depended greatly upon the advances that had in recent years been made in cerebral

localization. It was quite different, too, in its nature from operations on brains injured by violence. Although the case shown to-night was a very successfnl one, yet advance in such a procedure could scarcely be expected without a certain number of misfortunes. (Glasgow Medical Journal.)

Angina Pectoris Immediately Followed by Pericarditis. At the meeting of the Clinical Society of London, on January 25, 1884, Dr. Donald Hood related the case of a gentleman, aged sixty-five, who, while resting on a sofa apparently asleep, was suddenly aroused by the window curtains being on fire. He quickly jumped up to extinguish the flames, and within half an hour after this exertion he was suddenly seized with severe heart-cramp. Seen shortly afterward by Dr. Hood, he was noticed as being blanched, barely able to speak, heart irregular and fluttering, pulse of peculiarly low tension, with agonizing cramp-like pain over cardiac region. Hot stimulating applications, brandy, ether, opium, were used freely, and the patient slowly lost the pain, and a general improvement of the circulation took place. Twenty-four hours after the commencement of the attack a soft pericardial souffle was noticed; within a few hours it had deepened into a distinct rub. From this time during the succeeding ten days the case assumed all the characters of one of pericardial effusion; the amount of fluid being but moderate, and apparently completely absorbed within the ten days. A fortnight later the patient was found to have a systolic apex murmur, and symptoms of incompetency of the mitral valve rapidly developed. The patient died four months later from syncope, and at the time of death was the subject of cardiac dropsy. No post-mortem could be obtained. Dr. Hood suggested, as a possible explanation of the primary attack, with its subsequent train of symptoms, that the patient was the subject of some fibroid degeneration of the heart. Roused from sleep by the flames, his alarm and exertions caused a sudden distension of the heart cavities, which possibly gave rise to some lesion of the visceral layer of pericardium, and so started the pericarditis.

In support of this hypothesis, Dr. Hood called attention to the series of cases of fibroid disease of the heart, collected and published by the late Dr. Fagge in the twenty-fifth volume of the Transactions of the Pathological Society, and stated that in more than half of these cases the patients were found to have been the subjects of pericarditis. He further suggested that fibroid degeneration of the heart should be looked upon as a possible factor in those cases of pericardial effusion in which it was difficult to explain the cause of the pericarditis.

Dr. De Havilland Hall gave the details of a case seen by him five years ago, in which a man, aged fifty-six, had suffered from severe pain in the precordial region shortly after a violent and passionate altercation with his son. The pain was still present on the following day, but was somewhat relieved by the use of diffusible stimulants, and of morphia subcutaneously, but never quite disappeared. The sounds of the heart were then normal, and there was no rise of temperature. Within forty-eight hours signs of pericarditis became manifest, a moderate effusion took place, the patient became worse, and died in four or five days.

Dr. Duckworth said that hitherto no clinical connection had been recognized between cases of genuine angina pectoris and pericarditis by any of the standard authors. The classical disease, angina pectoris, was generally relieved by the well-known remedies. But there were other forms of angina, and especially in connection with aortic disease, in which severe cardiac pain was set up, and he considered it possible that the cases related might have been of this class. Chronic mediastinal inflammation, disturbing the nerves of the part, might give rise to cardiac neuralgia. These cases, however, were different from those of true angina pectoris. He thought that probably very few physicians had seen many cases of the latter affection, while the occurrence of cardialgia must be familiar to most observers. Simple cardiac neuralgia, however, was not usually followed by pericarditis.

Dr. W. Ewart thought that it would be of interest if evidence could be brought forward of the extent to which pathological

changes on the heart and great vessels could give rise to symptoms. He had met with many instances of cardiac pain simulating neuralgia, brought on simply by excitement. It would be difficult to explain the occurrence of pericarditis from a purely functional cause; but he thought it possible that there might be an enlargement of the aorta within the pericardium, which, escaping detection, might suffer a slight rupture and so set up pericarditis. He would be inclined to attribute the sequence of events in these cases to some such coincidence. (Medical Times and Gazette.)

A Crux for Anti-Vaccinators.—The account given by Dr. Wright of a recent prevalence of smallpox in the Rumford district strongly emphasizes the value of vaccination as a prophylactic of the disease. The person first attacked was a woman, with whom the disease was complicated by an advanced condition of pregnancy. This case was fatal. The husband was revaccinated and escaped, as did also the children, who had been but recently vaccinated. The inmates of nine adjoining cottages were advised to be revaccinated, but declined, and in consequence eight persons became affected. Ultimately the remaining inmates consented to the operation, and no further case occurred. The sister of the woman first attacked caught the disease while visiting the patient, and was treated at home. Her husband was revaccinated and escaped, but a woman who was in attendance as a nurse obstinately refused to be protected, and contracted the disease and died. (British Medical Journal.)

The Gastroscope.—Mr. J. Leiter, of Vienna, has constructed a singular modification of the microscope, to which the name of gastroscope has been given. Its use is for exploring the interior of the stomach. It consists of a metal tube, sixty-five centimeters long and fifteen minims thick, bent at an angle of one hundred and fifty degrees at about one fourth of its length from the lower end. At the lower extremity is contained an incandescent electric lamp for illumination of the interior of the

stomach, and an objective, at the back of which is a prism to reflect the pencil along the length of the tube; at the bend it is again reflected by another prism to the eye-piece. Provision is made for a circulation of cold water to prevent the lower end of the tube becoming inconveniently hot. (Medical Press.)

OVARIOTOMY ON A CHILD OF EIGHT AND A HALF YEARS.—The mother had only noticed the abdominal development during a few days. The tumor was movable and slightly fluctuating. The abdomen was opened, the tumor punctured, and about a quart of a lemon-colored fluid drawn. The left ovary and fallopian tube were implicated. No adhesions. Convalescence was rapid and uncomplicated. Spencer Wells has published one at eight years and another at thirteen years. Péan one at twelve years, the cyst containing hair. M. Ferrier one at thirteen years, the cyst having been punctured several times. All recovered. (*Loire Medicale.*)

LARGE CALCULUS IN A WOMAN. — Surgeon Hunter, of the Bombay Army, reports the case of a woman with symptoms of stone in the bladder. The urethra was dilated for a week with metallic dilators and bougies, when the finger could be passed easily into the bladder. Lithotomy forceps were then introduced and the stone seized, but was found to be too bulky for extraction. The urethra was then incised for half an inch, when a phosphatic calculus, measuring over four inches in circumference and weighing seven hundred and sixty grains, was removed. The patient, two weeks after, well, and with no incontinence.

Notes and Queries.

USE OF BACTERIA.—Dr. E. L. B. Godfrey, Ph. D., writes, in the Medical Bulletin: Of what use are bacteria? They are the agents of decay of dead organic matter. All organisms undergo unconscious yet constant changes of their constituent materials during life. Those changes are effected through a delegated and inherited power, and when that power is withdrawn, waste and repair cease, and death ensues. After death the constituent changes of composition and structure are effected through new chemical affinities, and by bacterian germs. Were it not for bacteria, dead organic matter would encumber the earth and destroy its beauty and usefulness to man. If it be true that the constituent materials of organized matter return after death to the inorganic world from which they again become serviceable under creative power to new life; if it is true that the material from which animals and vegetables are molded is limited upon the earth, the same particle must ever be converted from bodies dead into living, in an eternal circle. It is true that nature operates in a circle. The wandering of matter is a scientific fact. And in reducing dead organic matter to its original elements, from which it again becomes serviceable to new life, and, indeed, makes the continuance of life possible upon the globe, bacteria are the agents that maintain the equilibrium between the living and the dead. How insignificant they, the smallest of living organisms, appear when viewed singly! Yet, taken collectively, they constitute an agency of wondrous power.

"Each moss,
Each shell, each crawling insect holds a rank
Important in the plan of Him who formed
This scale of beings; holds a rank, which, lost,
Would break the chain and leave a gap
That nature's self would rue."

To DERMATOLOGISTS.—In the library of the late Dr. L. P. Yandell are the following works on *Diseases of the Skin, etc.*, which will be sold as a whole or in lots to suit. Persons desirous of purchasing should write to Editors AMERICAN PRACTITIONER:

Hyde on Diseases of Skin.
Willan on Skin Diseases. (2 volumes.)
Diseases of Skin, Squire.
Newman's Hand-book of Skin Diseases, Bulkley.
Anderson on Skin Diseases, Psoriasis and Lepra.
Arsenic in Skin Diseases, Bulkley.
Skin Diseases of Parasitic Origin, Fox.
Treatment of Skin Diseases, Lieving.
Diseases of Skin, Boylston Prize Essay, B. Jay Jeffries.
Pharmacopeia of British Hospital for Skin Diseases.
On Certain Diseases of Skin, Geo. Ross, M.D.
Cazenave on Skin, Bulkley.
Cook on Tinia Capitis.
Atlas of Cutaneous Diseases, Nelegan's.
Hebra on Diseases of Skin. (Vols. 1, 2, 3, 4, 5.)
Wilson on Skin and Hair.
Diseases of Skin, McCall Anderson.
Vapor Baths, Basil Cochran.
Structure and Functions of Skin, Wood.
Skin Diseases, Fox.
Anderson on Skin Diseases, Eczema.
Skin Diseases, Tilbury Fox.
Cutaneous Diseases, Worcester.
Diseases of Skin, Wilson.
Parasites, Jeffries.
Diseases of Skin, Morris.
Diseases of Skin, Duhring.
Diseases of Skin, Duhring. (Second edition.)
Plates on Diseases of Skin, Wilson.
Hellier on Diseases of Skin.
Cutaneous and Venereal Diseases, Mein.
Classification of Skin Diseases, Dr. Fox.
Epitome of Skin Diseases, Dr. Fox.
Diseases of Skin, Kippox.
Manual of Skin Diseases, Bulkley.
Skin and Its Troubles.
Hair, Its Diseases and Treatment, Leonard.

BEEF PEPTONOIDS.—An elaborate analysis of this new food by Dr. Stutzer, Director of the Imperial Chemical Laboratory, Bonn, Germany, would seem to establish that it is to be the aliment for the sick in the future. Dr. S. says: The exceptionally high nutritive value of this preparation is due to the great quantity of digestible albuminoids present. If compared with other foods in the market, the result would be as follows:

Beef Peptonoids,	nitrogenous	nutritive	matter,	70.29	per cent.
Caviar,	"	"	"	26.00	"
Beef,	"	"	"	20.00	"
Fowl,	"	"	"	18.00	"
Mutton,	"	"	"	18.00	"
Eggs,	"	"	"	13.00	"
Bread,	"	"	"	8.00	"
Milk,	"	"	"	4.00	"
Liebig's Ex. Meat,	"	"	"	5.00	"
Potatoes,	"	"	"	1.00	"

The flavor and odor of the preparation are exceedingly pleasant, and surpass any other preparation of meat with which I am acquainted. The results of my analyses are such as to enable me to pronounce beef peptonoids to be a *most valuable* and *easily digested* nitrogenous food for invalids and convalescents.

ANOTHER BIT OF ABERNETHY'S ROUGHNESS.—A certain American in London was dyspeptic and went to consult the great doctor. "What's the matter with you?" asked Abernethy. "Why," replied the American, "I presume I have the dyspepsy." "Ah!" said he, "I see; a Yankee—swallowed more dollars and cents than he can digest." "I am an American citizen," was the reply, "and I am Secretary of Legation at the Court of St. James." "When did you arrive?" "Three days ago." "Ah! then you will soon be cured of your dyspepsia." "How so?" "Well, in the company you'll be obliged to keep you'll have to eat like a Christian." The gentleman did not know Abernethy's peculiarities, and made some sharp reply, on which Abernethy broke out: "I'll be hanged if I ever saw a Yankee that did n't bolt his food whole like a boa constrictor. How the d—l can you expect to digest food that you neither take the trouble to dissect

nor the time to masticate? It's no wonder that you lose your teeth, for you never use them—nor your digestion, for you overload it—nor your saliva, for you expend it on the carpets, instead of on your food. It's disgusting. You call it dyspepsia; I call it guzzling. If you take half the time to eat you do to drawl out your words, and chew your food half as well as you chew your tobacco, you would be well in a month." And Abernethy was right. (Vanity Fair.)

An Old Medical Society.—The Medical Society of London, says the Medical Press, the oldest medical society in this country, if not in the world, celebrated the completion of its one hundred and eleventh year of existence by its anniversary dinner Saturday evening, March 8th. There were many speeches, the most noteworthy being of course that of Prof. Huxley. The "uncrowned king of science," as Sir Joseph Fayrer aptly called him, lauded medicine for what it has done in the past for science, and vituperated the Government for what it is going to do for medicine. Thirty years ago, said Professor Huxley, a medical education was the only entrance to the study of chemistry and biology. Sir Jos. Fayrer made many graceful speechlets, and gave the Fellows the very sound, but rather uncourtierlike advice, not to rely for their success on such incidents as princes' visits, but on their own exertions; to which we may add the advice not to depend too much on their presidents. The Society can not expect to have a succession of Sir Joseph Fayrers in the chair.

Dr. A. Randolph Mott, resident physician at the Riverside Hospital, Blackwell's Island, died May 6th of typhus contracted two weeks previously in the discharge of his duties at that institution. He was twenty-six years old, and was born at Leesburg, Va., where his father is a prominent physician. In 1878 he was graduated from the University of Virginia and came to New York, where he obtained an appointment to the medical service of the work-house on Blackwell's Island. From there

he went to the Randall's Island Infant Hospital and Hart's Island Hospital, also under charge of the Department of Charities and Correction, and in 1881 was appointed to the Riverside Hospital, where he remained up to the time of his death, at the same time holding a position in connection with the chair of gynecology at the New York Polyclinic. The Board of Health has passed suitable resolutions in reference to his untimely decease and the loss of his efficient services.

DR. SAMUEL D. GROSS.—The remains of the late Dr. Gross were cremated at Washington, Pa. They were brought back to Philadelphia under the escort of the family and friends of the distinguished physician. The ashes weighed about seven pounds, were hermetically sealed in a tin box, and placed in the coffin in which the body was carried to Washington. On reaching Philadelphia the coffin was removed to the late residence of Dr. Gross, and subsequently the ashes were inclosed in a marble urn about three feet high, unornamented and without inscription, and placed beside the coffin of Dr. Gross's late wife in the family vault at Woodland Cemetery. Rev. Dr. Charles Currie read the Episcopal burial service at the cemetery.

POTASSIUM CHLORATE AND MURIATIC ACID.—When the two chemicals are prescribed together in a watery vehicle, there are two ways of dispensing the mixture. One is to dissolve the chlorate in the menstruum, without heat, and to add the acid last. In this case no decomposition takes place, and the solution presents simply the medicinal properties of the original ingredients. But if heat is applied, or if the pure acid is poured on the chlorate in the empty bottle, and the watery liquid is added after the chemical reaction has taken place, the result is a solution of chlorine and chlorine compounds, substantially equivalent to ordinary chlorine water.

LIEBIG'S INFANTS' SOUP.—According to Meffdorsky (*Pharm. Zeitsch. J. Russ.*) this food can be thus prepared: Take 480 parts of freshly-ground wheat flour, not the finest; 480 parts of ground

malt; 15 parts of bicarbonate soda; mix with 960 parts of water and 4,800 of milk. Stir well over a gentle fire till the mixture begins to thicken. Then remove the mixture and stir well for five minutes. Heat again, and when it next begins to thicken raise the heat till the mixture just begins to boil. Then pass through a fine strainer, so that the husks may be removed. The food is sweet enough without additional sugar. It will keep for twenty-four hours.

A NEW DEFINITION OF INSANITY.—A few weeks since a disconsolate citizen called at our office for advice about his wife, saying that she was crazy. Upon being asked how he knew she was crazy, and what her symptoms were, he promptly replied as follows: "Her head gets twisted up with ideas, and then she kind of gets mad at her own thoughts, and fights it out with somebody else." Who has done better? (American Psychological Journal.)

THE MEDICAL INDEX.—This is the name selected by the editors of the Kansas and Missouri Valley Medical Index and the New Medical Era and Sanitarian, for the journal in which both the above named publications have been merged. The editor, Dr. J. B. Browning, has as co-editors Drs. F. F. Dickman and U. A. Drake. We wish the new candidate for public favor a long, prosperous, and useful career.

THE therapeutic effect of boldo leaves, imported from Chili, is claimed to be similar to that of coco. In the hospitals of Paris it has been used with perfect satisfaction in affections of the liver and in gall-stones. The drug is best administered in the form of a concentrated tincture or elixir that contains all the active principles.

DIFFUSION OF SYPHILIS BY A MIDWIFE.—Dr. Kline reports that thirty married women, nine husbands, and two infants contracted the disease directly or indirectly from a diseased midwife. (British Medical Journal.)

AMERICAN MEDICAL ASSOCIATION.—The following are the officers for the ensuing year: President, Henry F. Campbell, Georgia; Vice-Presidents, J. S. Lynch, Maryland, S. D. Mercer, Nebraska, J. W. Parsons, New Hampshire, H. C. Ghent, Texas; Treasurer, R. J. Dunglison, Pennsylvania; Librarian, C. H. Kleinschmidt, District of Columbia; Chairman of Committee of Arrangements, S. D. Logan, New Orleans; Assistant Secretary, W. H. Watkins, New Orleans. Place of meeting, New Orleans, last Tuesday in April, 1885.

AMERICAN SURGICAL ASSOCIATION.—Officers for 1885: President, William T. Briggs, M. D., of Nashville, Tenn.; Vice-Presidents, J. C. Hutchison, M. D., of Brooklyn, N. Y., and E. H. Gregory, M. D., of St. Louis, Mo.; Secretary, J. R. Weist, M. D., of Richmond, Ind.; Treasurer, John H. Brinton, M. D., of Philadelphia; Recorder, J. Ewing Mears, M. D., of Philadelphia; Council—Henry F. Campbell, M. D., 1885; Hunter McGuire, M. D., 1886, P. S. Conner, M. D., 1887; J. S. Billings, M. D., 1888.

NOTICES of the Proceedings of the American Medical Association, of the American Surgical Association, and of the Association of American Medical Editors, which were prepared for this number of the journal have been crowded out, but will appear in the July issue.

CHEVREUL, the celebrated French chemist, discoverer of the composition of fats and many other secrets of chemistry, was ninety-eight years of age on the 1st of September. His mental faculties are intact.

ARTIFICIAL OYSTERS are supplied to the Paris markets, according to the *Union Médicale*. They are colored by means of copper, and are cemented to the interior of old shells.

REVACCINATION has been made obligatory in all the colleges and lyceums in France.

In Memoriam

WITHIN THIS URN LIE THE ASHES OF

SAMUEL DAVID GROSS

A Master in Surgery

His life, which neared the extreme Limits of the Psalmist,
was one unbroken process of Laborious Years.

He filled Chairs in Four Medical Colleges in as many States of the Union,
and added Luster to them all.

He recast Surgical Science as taught in North America,
Formulated anew its Principles,
Enlarged its Domain,
Added to its Art, and imparted fresh Impetus to its Study.

He Composed many Books, and among them

A System of Surgery

Which is read in different tongues, wherever the Healing Art is practiced.

With a Great Intellect, carefully trained and balanced,
He aimed with undivided Zeal
At the Noble End of Lessening Human Suffering
and Lengthening Human Life,
And so rose to the Highest Position yet attained in Science
by any of His Countrymen.

Resolute in Truth, he had no Fear, yet he was
both Tolerant and Charitable.

Living in Enlightened Fellowship with all Laborers in the
World of Science,
He was greatly Honored by the Learned in Foreign Lands
and deeply Loved at Home.

BEHIND THE VEIL OF THIS LIFE THERE IS A MYSTERY WHICH HE PENETRATED ON THE

Sixth day of May, 1884

HIS MEMORY

Shall Exhort and his Example shall Encourage and Persuade
those who come after him to Emulate Deeds
which, Great in themselves,
Were all Crowned by the Milkwhite Flower of a

Stainless Life